Prisemi®

MB05F~MB10F

# 0.5A SURFACE MOUNT GLASS PASSIVATED BRIDGE RECTIFIER

## Feature

- Glass Passivated Die Construction
- Low Forward Drop
- High Current Capability
- High Surge Current Capability
- Designed for Surface Mount Application

## Maximum Ratings and Electrical characteristics

Single-phase, half-wave, 60 Hz, resistive or inductive load .For capacitive load, derate current by 20%.

| Parameter | Symbol | MB 05F | MB 1F | MB 2F | MB 4F | MB 6F | MB 8F | MB 10F | Units |
|---|---|---|---|---|---|---|---|---|---|
| Peak repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 50 | 100 | 200 | 400 | 600 | 800 | 1000 | V |
| RMS Reverse Voltage | $V_{RMS}$ | 35 | 70 | 140 | 280 | 420 | 560 | 700 | V |
| Averager Rectified Output Current (Note 1) @$T_{A=}$40℃<br>Averager Rectified Output Current (Note 2) @$T_{A=}$40℃ | $I_O$ | 0.5<br>0.8 | | | | | | | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single Half Sine-Wave Superimposed on rated Load(JEDEC Method) | $I_{FSM}$ | 30 | | | | | | | A |
| $I^2t$ Rating for Fusing(t<8.3ms) | $I^2t$ | 5.0 | | | | | | | $A^2s$ |
| Forward Voltage per element @ $I_F$=0.5A | $V_{FM}$ | 1.0 | | | | | | | V |
| Peak Reverse Current $T_{A=}$25℃<br>at Rated DC Blocking Voltage $T_{A=}$125℃ | $I_{RM}$ | 15.0<br>500 | | | | | | | μA |
| Typical Junction Capacitance per leg (Note 3) | $C_j$ | 13 | | | | | | | pF |
| Typical Thermal Resistance per leg (Note 1) | $R_{\theta JA}$<br>$R_{\Theta jl}$ | 60<br>16 | | | | | | | ℃/W |
| Operating and Storage Temperature Range | $T_J$,$T_{STG}$ | -55 to +150 | | | | | | | ℃ |

Note:

1. Mounted on glass epoxy PC board with 1.3mm$^2$ solder pad.
2. Mounted on aluminum substrate PC board with 1.3mm$^2$ solder pad.
3. Measured at 1.0MHz and applied reverse voltage of 4.0V D.C.

## Typical Characteristics

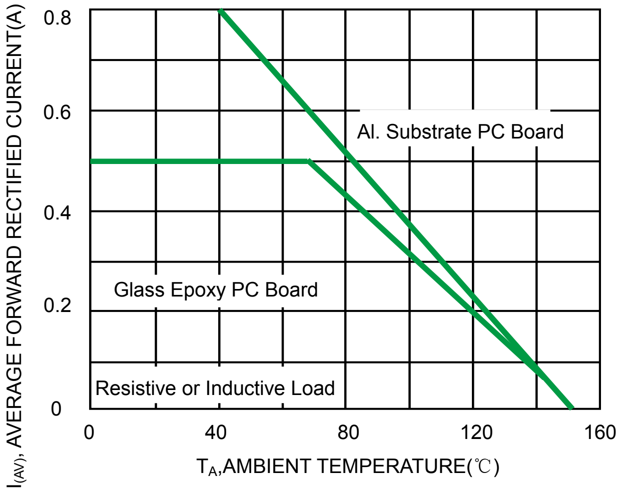



Fig 1 Output Current Derating Curve

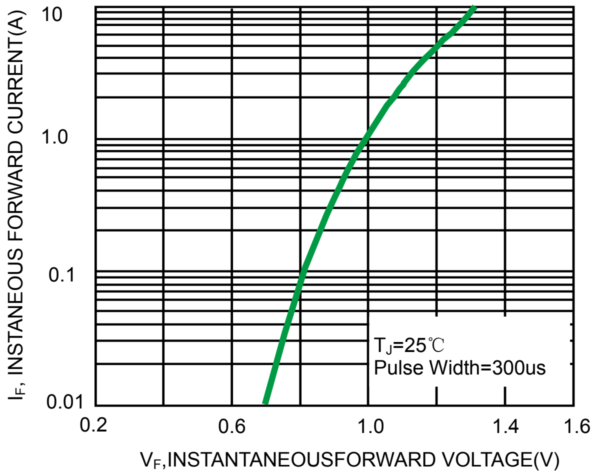



Fig 2.Typical Forward Characteristics (per leg)

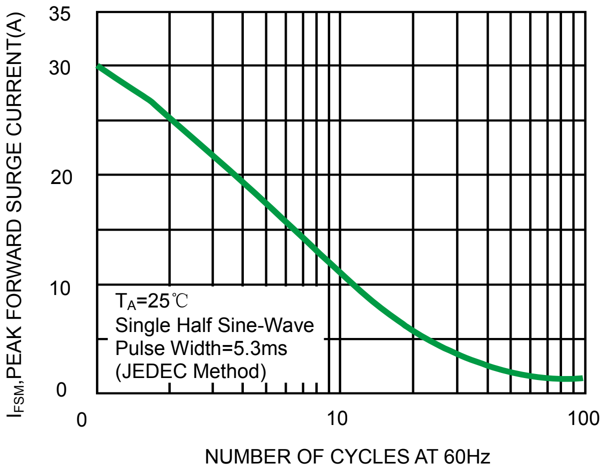



Fig 3.Maximum Peak Forward Surge Current(per leg)

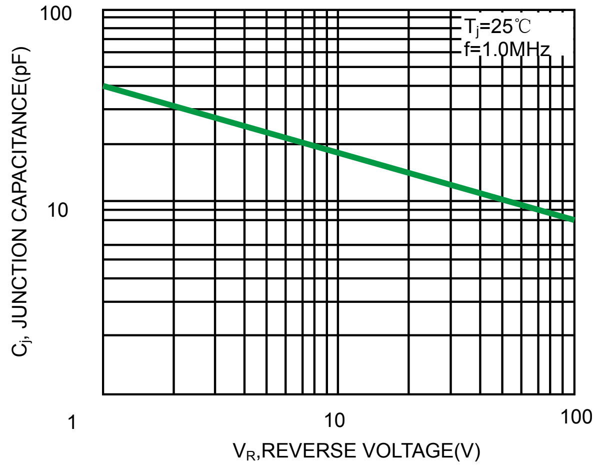
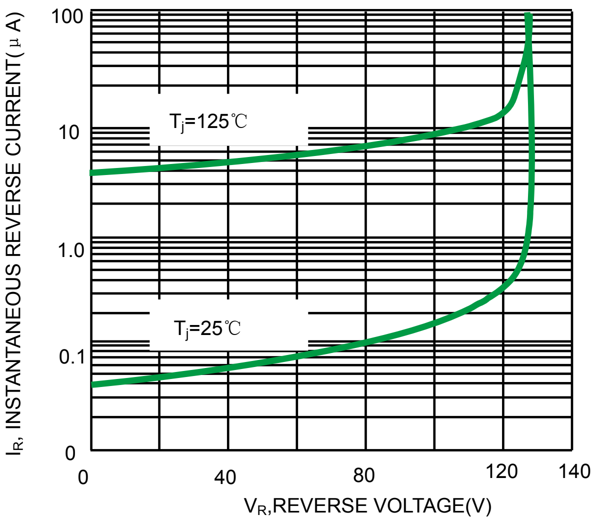
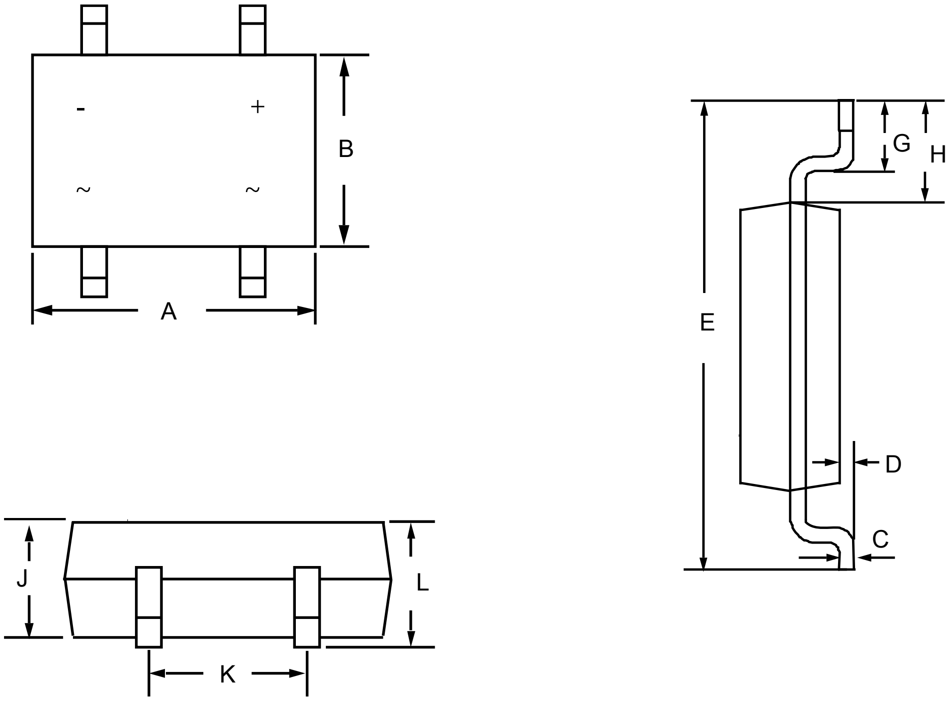



Fig 4. Typical Junction Capacitance




0

## Product dimension (MB-F)




Dimensions in inches and (millimeters)

| Dimension | Millimeters | |
|---|---|---|
| | MIN | MAX |
| A | 4.50 | 4.95 |
| B | 3.60 | 4.10 |
| C | 0.15 | 0.35 |
| D | -- | 0.20 |
| E | 6.40 | 7.00 |
| G | 0.50 | 1.10 |
| H | 1.30 | 1.70 |
| J | 1.20 | 1.60 |
| K | 2.30 | 2.70 |
| L | -- | 1.80 |

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